

KEELER MOUNTAIN TIMBER SALE PROPOSAL

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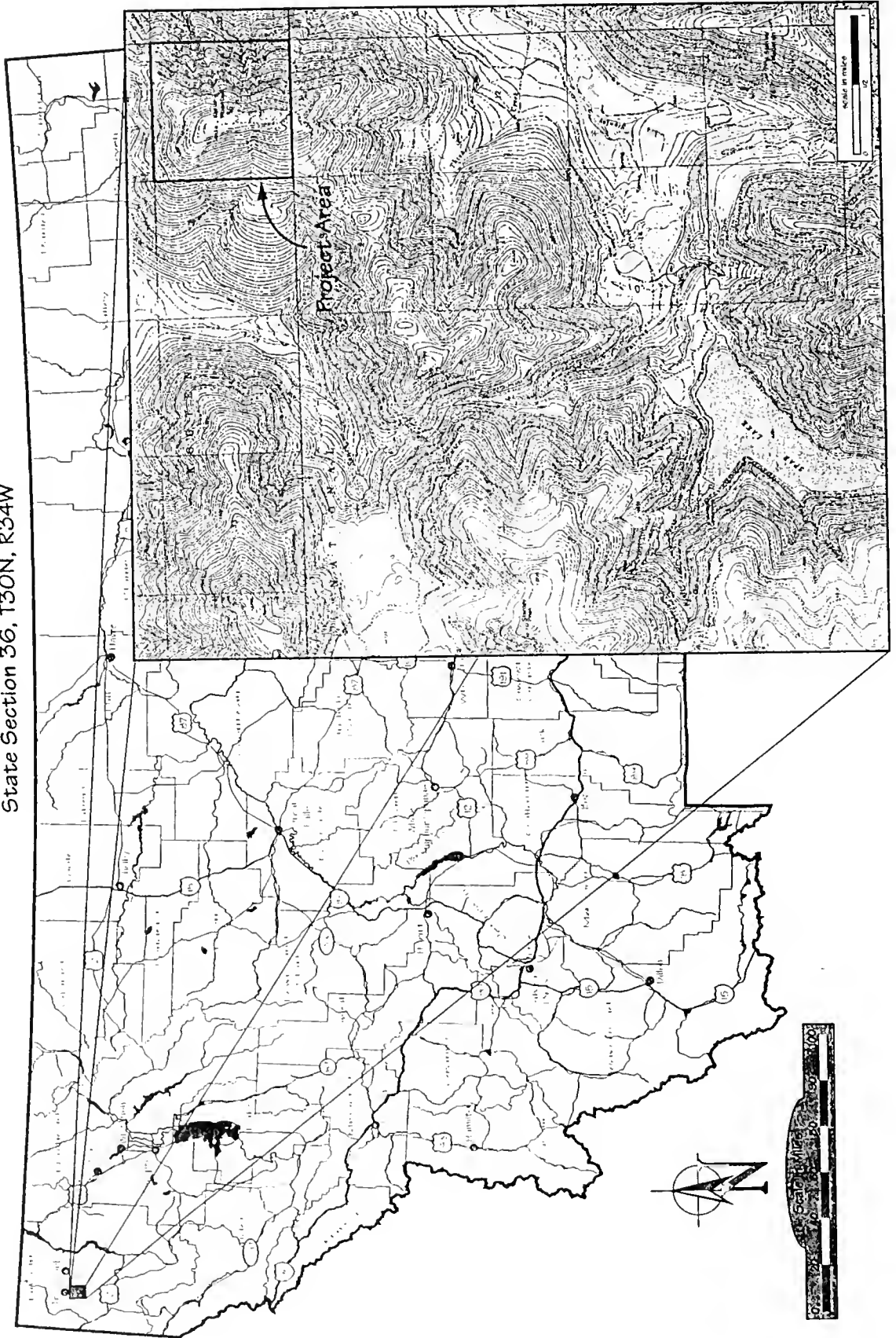
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Figure I-1 Proposed Keeler Mountain Timber Sale

General Vicinity Map

State Section 36, T30N, R34W



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KEELER MTN. TIMBER SALE FINAL ENVIRONMENTAL IMPACT STATEMENT SUMMARY

INTRODUCTION

Except for the changes made in **bold** type, this Summary is the same as the DEIS Summary.

The Montana Department of Natural Resources and Conservation (DNRC) proposes to harvest approximately 2.4 to 6.3 million board feet of timber from State Section 36, T30N, R34W, 10 miles south of Troy, Montana. The proposed action would encompass 114-442 acres of School Trust Lands (See Figure 1-1, Vicinity Map).

If an action alternative is selected, there would be approximately 1.0 - 2.2 miles of road construction and 4.6 miles of road improvements. Existing haul roads would be improved to meet Best Management Practices (BMP) for forestry in Montana. Approximately 1.0-2.2 miles of existing low standard road would be closed to offset the new construction and maintain road density.

The proposed action would be implemented during 2000 and the anticipated completion date would be during or before 2004. Slash disposal, grass seeding, and reforestation would be accomplished by the end of 2005.

PROJECT OBJECTIVES

The lands involved in this proposed project are held by the State of Montana in trust for the support of specific beneficiary institutions such as public schools, state colleges and universities, and other specific state institutions such as the school for the deaf and blind (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X, Section 11). The Board of Land Commissioners and the Department of Trust Land(s) are required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run for these beneficiary institutions (Section 77-1-202, MCA). On May 30, 1996, the Department released the Record of Decision on the State Forest Land Management Plan (the Plan or SFLMP). The Land Board approved the Plan's implementation on June 17, 1996. The Plan outlines the management philosophy of DNRC in the management of state forested trust lands, as well as sets out specific Resource Management Standards for ten resource categories. The Department will manage the lands involved in this project according to the philosophy and standards in the Plan, which states:

“Our premise is that the best way to produce long-term income for the trust is to manage intensively for healthy and biologically diverse forests. Our understanding is that a diverse forest is a stable forest that will produce the most reliable and highest long-term revenue stream...In the foreseeable future, timber management will continue to be our primary source of revenue and our primary tool for achieving biodiversity objectives.”

In order to meet the goals of the management philosophy adopted through programmatic review in the Plan, the Department has set the following specific project objectives:

1. To provide revenue to the Trust by harvesting 2.4 to 6.3 MMBF of timber.
2. To promote a diversity of stand structures and patterns to promote for long-term sustainability of forest resources and move forest structures toward appropriate or desired future conditions.
3. To reduce the potential for insect and disease outbreaks and the chance of a major stand replacing fire.
4. To maintain or improve vigor of commercial timber stands on treated areas.

CONNECTED AND CUMULATIVE ACTIONS

Connected actions directly tied to this project include post-harvest slash hazard reduction, tree planting, grass seeding and rehabilitation of landings. Timber harvest activities are expected to begin in 2000 and end in 2004. Slash disposal, tree planting, and rehabilitation of landings and obliteration of roads would be accomplished by 2005. Past and proposed future harvest activities and their impact on watershed yields, sedimentation, impacts to grizzly bear habitat and bull trout habitat are analyzed in relationship to this project in Chapters 3 and 4.

RELATIONSHIP TO THE STATE FOREST LAND MANAGEMENT PLAN

In June 1996, DNRC began a phased-in implementation of the State Forest Land Management Plan (Plan). The Plan established the agency's philosophy for the management of forested state trusts lands. The management direction provided in the Plan comprises the framework within which specific project planning and activities take place.

This project was begun prior to the approval of the Resource Management standards. However, to the extent possible, the Plan philosophy and appropriate resource management standards have been incorporated into the design of the proposed action.

ENVIRONMENTAL REVIEWS RELATED TO THIS PROJECT

The Kootenai National Forest is planning management activities within the Spar Planning Unit during the period of 2000-2004. This planning unit comprises 85,000 acres surrounding DNRC's Keeler Mountain project. The USFS is very early in their planning process, as such targeted stands, management treatments and road plans have not been specifically identified. Also, no alternatives have been developed that would define a proposal in enough detail to allow completion of a quantitative cumulative effects assessment.

ENVIRONMENTAL ANALYSIS FROM ADJACENT ACTIONS THAT INFLUENCE THE PROJECT PROPOSAL

The United States Fish and Wildlife Service (USFWS) and the U.S. Forest Service (USFS) reviewed the proposed Keeler Mountain Timber Sale to assess the cumulative effects on the management of grizzly bear and their recovery within the Cabinet Yaak Ecosystem. The information that the state provided to the U.S. Fish and Wildlife service in regards to opening size, total motorized access density, habitat effectiveness, movement corridors and distance to hiding cover was preliminary planning information for the proposed actions..

The USFWS and USFS also reviewed this proposal to assess the direct, indirect and cumulative effects on the management of Bull trout and their recovery within the Keeler and Lake Creek drainages. The project was evaluated in regards to the potential effects to the species indicators and habitat indicators that are essential to Bull Trout recovery.

INVOLVEMENT OF COOPERATING AGENCIES

The biological assessment for threatened and endangered species was prepared by DNRC and USFS biologists who were in contact with the United States Fish and Wildlife Service. The Montana Department for Fish, Wildlife and Parks biologist reviewed the proposal in relation to big game and fisheries management.

PERMITS REQUIRED FOR PROJECT IMPLEMENTATION

- A. U.S. Forest Service road use permit or permanent FRTA easement for roads 4610, 4602 and 384.
- B. A Stream Preservation Act Permit (124 permit) is required from the Department of Fish, Wildlife and Parks for three stream crossings.
- C. A short-term exemption from Montana's Surface Water Quality Standards (3A Authorization) is needed whenever temporary activities will introduce sediment above natural levels into live streams. This permit from the Montana Department of Health and Environmental Sciences is needed for some culvert installations.

D. Officially report and record individual burning in conjunction with this project as required under the Air Quality Permit issued to DNRC annually.

E. Concurrence from the USFWS on the project's impacts to Threatened and Endangered Species for activities on both USFS and State lands. USFWS concurrence is required for the state to obtain a road use permit of permanent road easement from the USFS.

PROJECT DECISIONS TO BE MADE

This EIS will provide the Decision maker with information necessary to make the following decisions.

A. Do the alternatives developed meet project objectives?

B. Which alternative should be implemented?

C. Were all practical means to avoid or minimize environmental harm adopted? If not, why not?

RESOURCE ISSUES AND CONCERNS

Initial public involvement was solicited by a newspaper advertisement in the Western News in November 1996. Letters were also sent to interested parties. Responses have been used to determine issues of concern. DNRC technical specialists (foresters, hydrologists, wildlife biologists, archeologist, forest ecologists, forest pest specialists and forest engineering specialist), Montana Department of Fish, Wildlife and Parks biologists, adjacent landowners and the public helped identify the issues that are analyzed in this EIS. A complete mailing list of those receiving notice of the project along with a record of comments received and corresponding responses can be found in the project file at the Libby Unit Office.

All timber sales designed by DNRC incorporate many routine mitigation measures, including the new SFLMP Resource Management Standards, and environmental controls to reduce impacts and answer resource concerns. Some of the other issues and concerns we received are outside the scope of the proposed action because they are either irrelevant to the decision, already decided by law or DNRC standards, beyond the geographical influence, or have nothing to do with the proposal.

Through the scoping process, concerns were raised by the public and specialists of DNRC and other agencies about the project's potential impacts on the environment. These concerns were used in developing alternatives (see Chapter II). A summary of the comments that were incorporated into the alternatives is presented below.

1. TIMBER/VEGETATION: Timber in the proposed area is mature, overmature, or decadent. A concern was raised that the loss of timber volume tree growth and the loss of income to the trust would result if this timber were not harvested.

Concern was also expressed that past fire suppression activities have affected the incidence of tree diseases, insect infestations, biological diversity and successional processes of our forests.

2. OLD GROWTH AND BIODIVERSITY: It was voiced that the State does not adequately protect Old Growth timber stands that it manages. Concern was expressed that old growth stands should be properly verified. This verification should assess the size, distribution, and amounts of old growth within the appropriate analysis area. This data would establish a baseline to show the effects that the action alternatives have on these old growth factors.

Additional concerns arose that there should be additional mature forests available to replace old growth timber that is lost to natural succession.

3. REGENERATION: Concerns were voiced that successful regeneration must be achieved when applying even-aged harvesting methods. It was suggested that an analysis of similar land types, habitat types, slopes and aspects be evaluated for regeneration success.

4. WILDLIFE ISSUES: Concern was expressed that old-growth timber stands should be protected. Old growth habitat is critical to the survival of numerous old-growth associated species including the Boreal Owl, Black-backed Woodpecker and the Flammulated Owl.

A concern was raised that the size of the old growth stands should be sufficient to provide secure habitat for old growth associated species such as pine martin and goshawks.

A concern was raised that fragmentation of wildlife habitat both connected and cumulative to the project should be assessed in regards to its impact on wildlife.

Concern was expressed that species-specific habitat losses may occur as a result of implementing the proposed alternatives. Elk was identified as a specific management indicator species.

The possible impacts on threatened, endangered and sensitive species by the proposed alternatives was also voiced as an issue. Specifically the analysis should address the impacts on the habitat and populations of threatened, endangered and sensitive species and if the project would contribute to the extinction of any of these species. The analysis should include the current and future open road density for the appropriate analysis area and their impact on wildlife security.

5. FISHERIES: Bull trout are known to inhabit the Keeler and Stanley Creek drainages. Keeler Creek is the only known spawning tributary for the population of bull trout in Bull Lake.

Concern has been expressed that the proposed action alternatives could adversely affect native fish populations.

A concern was raised that the fisheries analysis should include a discussion of the current habitat conditions for fisheries and what the effects the action alternatives will have on their habitat conditions.

6. ROADS: Roads are a known source of sediment contribution to streams. Concerns were expressed of the direct, indirect and cumulative impacts of all road construction; reconstruction and modifications of access management.

7. WATERSHED: Much of the area surrounding the project has been impacted by past logging activities and road building. Concerns were expressed that the proposed alternatives could impact water quality, sedimentation, increase in peak flows, stream channel stability, increase stream water temperature and increase the risks associated with rain on snow events.

Concerns were also expressed that the locations of other water bodies (i.e., spring, bogs, seeps and sensitive wet areas) should be disclosed and the effects that the project activities would have on these areas should be analyzed.

Concerns were also expressed in regards to the cumulative effects of past management activities and their relationship to the present proposal.

8. SOILS AND SITE PRODUCTIVITY: Concerns were expressed that unstable land types unstable soils or erosive soils may be present in the project area. What site specific mitigations will be applied to these areas of concerns?

A concern was raised that the cumulative effects of past activities in regards to soil compaction, displacement and surface erosion should be incorporated into the effects of the proposed activities.

A question was raised that the success rate of the proposed BMP's been on similar land types.

9. NOXIOUS WEEDS: Concern was expressed that noxious weeds could be introduced into the project area and what effects could these weeds have on rare and sensitive plant populations. What specific mitigation measures will be implemented? What are the results of monitoring noxious weed infestations from past management actions.

10. VISIBILITY FOR KEELER MOUNTAIN FIRE LOOKOUT: The Keeler Mountain fire lookout tower is located on the top of Keeler Mountain and is in the middle of the project area. This lookout is staffed in the summer months with USFS personnel.

Concern was expressed by the USFS that trees around the lookout are growing in height and are hindering the visibility from the lookout. The USFS would like to see the area surrounding the lookout is included in the timber sale.

11. ECONOMICS AND NET PUBLIC BENEFIT: Concerns were expressed that the selected alternatives show all costs associated with the project to show a true net profit associated with the project. All costs associated with road construction, reconstruction and road improvements, reforestation, applications of BMP's and lost recreational opportunities should be evaluated to show a true net benefit from the project. Also this analysis should adequately document who benefits from the project.

Concerns were also voiced that there should be an alternative, which utilizes the lands in the Keeler project area that will benefit local and state schools without logging or building roads.

12. AIR QUALITY AND SLASH DISPOSAL: Smoke created from burning slash was not raised as a concern, but often becomes an issue after burning takes place.

13. VISUAL QUALITY: Concern was expressed that cable yarding and road construction across the east face of Keeler Mountain would adversely affect the visual resource as seen from Highway 56 and Bull Lake.

PROJECT DEVELOPMENT

Proposals were developed to define the project in terms of the purpose of the action, laws, rules, and environmental factors. Unit location and road location were based on harvesting timber on approximately 114 to 442 acres. The proposals reflected considerations for known issues and incorporated features designed to reduce or eliminate potential adverse effects to resources. Under the direction of the decision maker, an interdisciplinary team was formed to analyze environmental effects and develop an environmental analysis. A strategy for initial scoping was then developed to provide opportunities for the public, groups and other agencies to participate in the process.

The major environmental issues identified during the scoping process were defined and are summarized in Chapter 1. In order to understand how the proposed alternatives would change the environment a no action alternative was described to act as a baseline to compare the effects of the action alternatives.

The ID team developed timber-harvesting alternatives based on an analysis of forest stand conditions. Proposed treatments would move the forest toward desired future conditions of the landscape. Three primary concepts were used to differentiate between alternatives:

- The Mixed Conifer and Alpine fir cover types were determined to be the most over represented cover types on Libby Unit lands. Conversely the western larch/Douglas fir cover

types were determined to be the most under-represented cover types. This shift in cover type representation was partially attributed to man's exclusion of fire from the environment, which allows the encroachment of shade tolerant species.

- The age class distribution on Libby Unit lands indicated that there is an over-representation of the pole (40-100 year) and mature (100-Old Growth) age classes and an under-representation of the seedling/sapling age classes.
- The old growth component part on the Keeler Mountain project was determined to be an important component of the landscape. Libby Unit lands are scattered sections spread amongst different ownership groups. Since USFS ownership surrounds the Keeler Mountain Timber Sale, the retention of old growth stands and maintaining biological corridors between the State and USFS lands would be desirable in this location.

In addition to the concepts listed above, the following criteria were used to develop the timber harvesting alternatives.

- Generate revenue for the school trusts.
- Long-term timber productivity would be maintained or enhanced.
- The natural role of wildfire in this area would be emulated by manipulating the stand structure and species composition using different silvicultural prescriptions.
- The health and vigor of the stands would be improved by reducing the density of the stands, harvesting trees that are dead or being attacked by insects or diseases, and establishing vigorous regeneration with species that grow best in full sunlight in openings created by harvesting.
- Reduce the chance of large stand replacing wildfires through the manipulation of accumulated fuels and reducing the encroachment of late successional species.
- The location of the harvest units and choice of logging systems would lessen the impacts of road construction.
- Maintain site productivity of the project area by protecting soils from compaction and displacement.
- Design harvest units and road locations to protect watersheds, water quality and fisheries habitat.
- Maintain habitat for the protection of grizzly bears.
- Provide secure habitat for big game species.
- Provide permanent access to Keeler Mountain lookout by 2 wheel drive vehicle traffic.
- Each action Alternative was developed to meet the Resource Management Standards (RMS) developed in the Plan.

III. STIPULATIONS AND SPECIFICATIONS

Stipulations and specifications, designed to protect natural resources during harvesting and road building activities, are incorporated into the contract clauses and timber sale administration. A list of stipulations and specifications that would be applied to any alternative in this project are

an Appendix A. Mitigations designed to reduce impacts on particular natural resources are also discussed in Chapter IV.

ALTERNATIVES CONSIDERED IN DETAIL

The following alternatives are considered in detail in this analysis. This section describes a no action alternative (Alternative 1) and three action alternatives (Alternative 2, 3 and 4). The Summary of Project Actions (Table 2-1) may also help enhance alternative project descriptions. Figures 2-1, 2-2 and 2-3 are maps showing unit location within the project area for each action alternative. Table 2-3, 2-4 and 2-5 show harvest unit size, harvest treatment and harvest equipment for each alternative.

- A. ALTERNATIVE 1: This is the no action alternative. None of the proposed activities would be accomplished by this action. No timber harvesting, road reconstruction or improvements would be done.
- B. ALTERNATIVE 2: This alternative would harvest approximately 2.4 MMBF of timber on 114 acres using regeneration harvest methods. Fifty three acres would be treated by a clear-cut with reserves silvicultural treatment and the remaining 61 acres would receive a seedtree with reserve treatment. Approximately one mile of new road would be built and a corresponding one mile of road would be closed or obliterated. There would be 4.6 miles of road improvement to bring the haul route up to Montana Best Management Practices (BMP's) standards.
- C. ALTERNATIVE 3: This alternative would harvest approximately 6.3 MMBF of timber on 442 acres. The same 114 acres identified under alternative 2 would be harvested using the same silvicultural treatments. In addition, 10 acres would receive a salvage treatment removing the blow down timber. Three hundred and eighteen acres would be treated using a group selection harvest method using helicopter yarding. There would be approximately 1.4 miles of new road construction with a corresponding amount of road closures and road obliteration. The 4.6 mile haul route would be brought up to BMP standards.
- D. ALTERNATIVE 4: This alternative is similar to Alternative 3. The same 6.3 MMBF of timber would be harvested over the same 442 acres using the same silvicultural treatments. However, this alternative would build 2.2 miles of new roads and approximately 2.2 miles of roads would be closed or obliterated. The 4.6 mile haul route would be brought up to BMP standards. This additional road construction would reduce the 318 acres harvested by helicopter in Alternative 3 and increase the acreage treated by cable yarding and ground based systems. Because of the rugged terrain on the east half of the project area the feasibility of the cable harvesting systems is not completely known. It is estimated that between 87 and 231 acres could be logged using a combination of ground based and cable harvesting systems. The remainder of the acreage that cannot be harvested using ground based or cable methods may be harvested using a helicopter.

The economic return associated with helicopter logging appears to be uncertain; as such Alternative 4 will look at two cable harvesting options (87 acres and 231 acres) with and without helicopter logging.

Thus, Alternative 4 will be analyzed with 4 options: 1) 87 acres cable/ground harvest and 231 acres helicopter; 2) 87 acres cable/ground harvest and no helicopter logging; 3) 231 acres ground/cable harvest and 87 acre helicopter logging; and 4) 231 acre ground/cable harvest and no helicopter logging.

This range of options will be analyzed in regards to the associated impacts to soils, hydrology and economies.

TABLE 2-1: SUMMARY OF PROJECT ACTIONS

PROJECTED ACTIONS	ALTERNATIVES			
	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
Acres to be logged	0	114	442	442
Acres in regeneration harvest	0	114	114	114
Acres in group selection harvest	0	0	318	318
Acres in salvage harvest	0	0	10	10
Roads: Road construction (miles) Road improvements Road closure	0 0 0	1.0 4.6 1.0	1.4 4.6 1.4	2.2 4.6 2.2
Acres retained for Old-Growth Management	63	63	63	63
Estimated Harvest Volume (MMBF)	0	2.4 MMBF	6.3 MMBF	4.3 - 6.3 MMBF
Net Return to School Trust	0	\$399,651.00	\$402,653.00	\$538,862.00 - \$776,381.00

V. COMPARISON OF ENVIRONMENTAL EFFECTS

The following table summarizes the effects of the alternatives in regard to the main resource concerns and issues identified in Chapter I.

RESOURCE	ALTERNATIVE 1 NO ACTION	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
FOREST CONDITIONS				
Habitat Type Group	No change in Habitat Representation			
Patch Characteristics	Patch size and shape would not change in the short term.	Patch sizes created by regeneration harvests would be smaller than historic patch sizes created by natural disturbances.		
Cover Type Representation	No short term change in cover type representation. Overtime there would be a gradual increase in mixed conifer cover types and a subsequent decrease in larch/ Douglas-fir cover types.	Approximately 114 acres of mixed conifer, alpine fir and lodgepole cover types would be converted to western larch/Douglas-fir cover types.	Approximately 165 acres of mixed conifer, alpine fir and lodgepole cover types would be converted to western larch/Douglas-fir cover types. Approximately 278 acres of western larch/Douglas-fir cover types would be treated to maintain this cover type.	
Age Class Distribution	No Action No short term change in age class distribution.	Over the short term, approximately 82 acres of 40-99 year age class would be converted to 1-39 year age class, 32 acres of 100-149 year age classes would be converted to 1-39 year age classes.		
Old Growth Representation	No old growth stands will be harvested. No change in old growth amounts in the project area or Libby Unit.			
Regeneration	Any future regeneration would be late successional tree species that will bring current forest conditions away from desired future conditions.	Survey results of similar habitat types and land types demonstrate assurance that these sites can be adequately restocked.		
Air Quality	No effect to air quality.	Increased smoke from slash burning operations would have short term negative impacts on air quality, but would not exceed the maximum allowable levels as defined by Montana Cooperative Smoke Management Plan. Increase in road dust from log hauling and heavy equipment. Dust effects are largely mitigated by the application of dust abatement.		
Sensitive Plants	No new negative impacts to sensitive plants.	Possible negative impacts to sensitive plants due to introduction of weeds. Monitoring weed populations, restricting road traffic and weed mitigation should adequately protect sensitive plants from negative impacts from possible weed introduction.		
THREATENED AND ENDANGERED SPECIES				
Peregrine Falcon	No negative impacts			
Bald Eagles	No change	No negative impacts. No change.	No negative impacts. Possible positive impacts in hunting opportunities through stand opening.	

RESOURCE	ALTERNATIVE 1 NO ACTION	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
THREATENED AND ENDANGERED SPECIES (CONTINUED)				
Wolves	No change. Foraging habitat for wolves would continue to decline as conifer encroachment increase over elk and deer winter range.	Foraging habitat for wolves would continue to decline as conifer encroachment increases over elk and deer winter range. Security in project area would decrease due to increase in road density however, road closures would secure higher quality wolf habitat.	Foraging habitat for wolves may improve as elk and deer winter range is improved by timber harvest and understory burning. Road closures would secure higher quality habitat.	
Grizzly Bear	No change.	<ul style="list-style-type: none">• Slight decrease in habitat effectiveness during project period.• Open road density would increase slightly in BAA however, open road density would remain under the 0.75 mi/sq. mi. in BMU.• TMARD would remain unchanged because new road closures would equal new road construction.• Security core areas would be unaltered. The percentage of the BMU would remain unchanged however, the location may be shifted by road management decisions.• Logging activities would be curtailed in the spring (April 1 to July 15) to mitigate effects to spring bear use.		
SENSITIVE SPECIES				
Flammulated Owl	No change, owl habitat would continue to degrade.		Increased habitat for flammulated owl.	
Boreal Owl	No short term change. Over long term old growth would increase and owl habitat would increase.	Slight degradation boreal to owl habitat from harvesting of Stand 5. Future salvage harvests may degrade boreal owl habitat.		
Pileated Woodpecker	Pileated woodpecker habitat would persist or improve as forests continue to develop old growth characteristics.	Increased road density in project area increases the risk that snags along road corridors will be harvested for firewood if road restrictions fail.		
		Salvaging 10 acres of blowdown timber would remove foraging opportunities for woodpeckers. Removal of shade tolerant species would reduce short term habitat but may provide long term viability to area.		
Black backed Woodpeckers	No change. Area would increase in susceptibility to stand replacement fires.	Harvest units would reduce the chance of a large stand replacing event. This situation would limit the ability of the area to develop suitable habitat for black-backed woodpeckers.		
Lynx	No change. Lynx foraging habitat would remain absent from project area. Security would remain high.	Foraging habitat would increase due to regeneration harvests. Lynx security would decrease through additional road building.		

RESOURCE	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
BIG GAME				
Moose	No change	Some calving habitat would be lost due to canopy removal, conversely foraging habitat would increase.		
Elk and Mule Deer	No change. Habitat effectiveness, and security habitat would remain high.	Habitat effectiveness would remain high. Security habitat would decline. Winter range would continue to decline.	Habitat effectiveness would remain high. Security habitat would decline. Habitat value of winter range would improve.	
Black Bears	No change. Area would provide good spring and fall foraging however, these components would decline in the absence of disturbance.	Habitat values will increase. Security in the project area will decrease however, overall security, in project vicinity would remain the same.		
FISHERIES				
Bull Trout	No change	May affect but not likely to adversely affect		
White Sturgeon	No change	No effect.		
SOILS				
Soils	No change	Minimal risks to soils or soil productivity providing recommended mitigation measures be applied.		
ROADS				
Roads	Chronic road drainage problems would persist at current levels and recover or degrade as dictated by natural and pre-existing conditions	The 4.6-mile haul route will be brought up to BMP standards. All new road construction will meet BMP standards. USFS roads will be closed and rehabilitated in equal amounts to new road construction.		
NOXIOUS WEEDS				
Noxious Weeds	No change. Noxious weeds would continue to spread or re-seed as dictated by pre-existing conditions and current management.	Minimal risk of spread of noxious weeds providing recommended mitigation's are applied.		

RESOURCE	ALTERNATIVE 1 NO ACTION	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
WATERSHED				
Water Quality	No change. No new water quality impacts would be generated. Pre-existing sediment source problems would not be repaired.	Short term increase in sediment due to culvert removals, road rehabilitation and road construction. Long term decrease in sediment by eliminating chronic sources of sediment. Minimal risk of water quality impacts from timber harvesting providing recommended mitigations are applied.		
SOCIAL AND HUMAN ISSUES				
VISIBILITY FROM KEELER MOUNTAIN LOOKOUT	Visibility from lookout will continue to degrade as trees grow in height.		Visibility from lookout will be improved because timber harvest will remove view obstructions.	
VISUAL RESOURCES	No change.	No change.	Minor impacts to visual resources providing mitigation measures are applied.	
AIR QUALITY	No change.	Short term impacts to air quality from road dust and slash burning. Impacts would not exceed standards set by Montana Smoke Cooperative Plan.		
ECONOMICS				
NET RETURN TO TRUST	0	\$399,651.00	\$402,653.00 Helicopter logging will return \$1/MBF to trust.	\$538,862. - \$776381. Stumpage for group select harvesting would return \$36/MBF. Stumpage value for group selection harvest areas would increase from \$36/MBF to \$129/MBF by eliminating the helicopter logging. Helicopter logging appears to reduce total revenue to trust.

FIGURE 2-1 PROPOSED KEELER MOUNTAIN SALE MAP
 ALTERNATIVE 2

Proposed Keeler Mountain Timber Sale Map

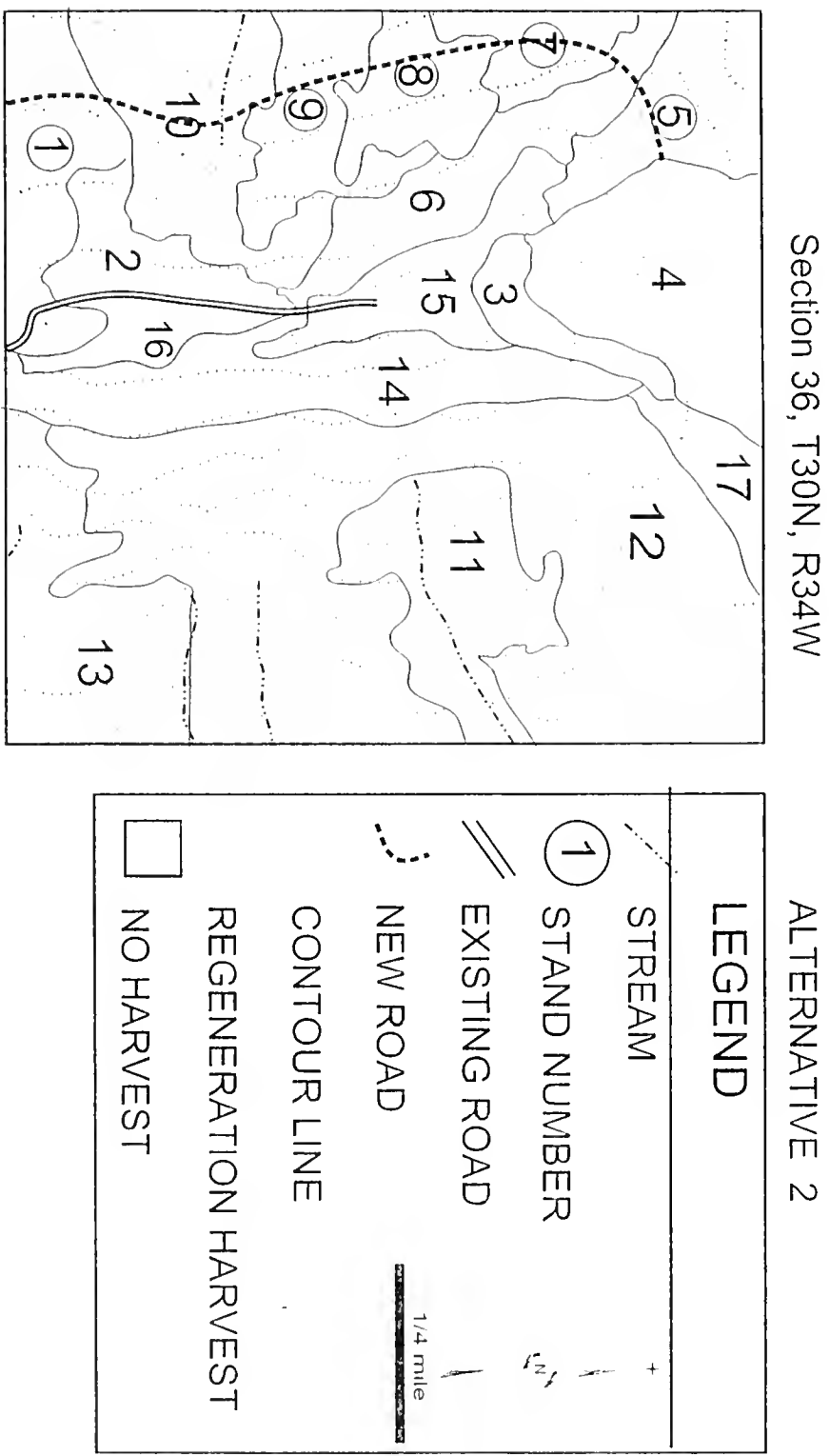


TABLE 2-3
KEELER MOUNTAIN TIMBER SALE ALTERNATIVE 2

STAND#	TREATMENT ACRES	SILVICULTURAL TREATMENT	HARVEST EQUIPMENT	PROPOSED SLASH TREATMENT
1	32	Seedtree with reserves	Line machine below road Soft track above road	Broadcast burn below road excavator pile and burn above road.
5	29	Seedtree with reserves	Line machine below road Soft track above road	Broadcast burn below road excavator pile and burn above road.
7	12	Clearcut with reserves	Line machine below road Soft track above road	Broadcast burn below road excavator pile and burn above road.
8	21	Clearcut with reserves	Line machine below road Soft track above road	Broadcast burn below road excavator pile and burn above road.
9	20	Clearcut with reserves	Line machine below road Soft track above road	Broadcast burn below road excavator pile and burn above road.
Road Construction = 1.0 mile Road Closures = 1.0 mile Road Improvements = 4.6 miles				

FIGURE 2-2 PROPOSED KEELER MOUNTAIN SALE MAP

ALTERNATIVE 3

Proposed Keeler Mountain Timber Sale Map

Section 36, T30N, R34W

ALTERNATIVE # 3

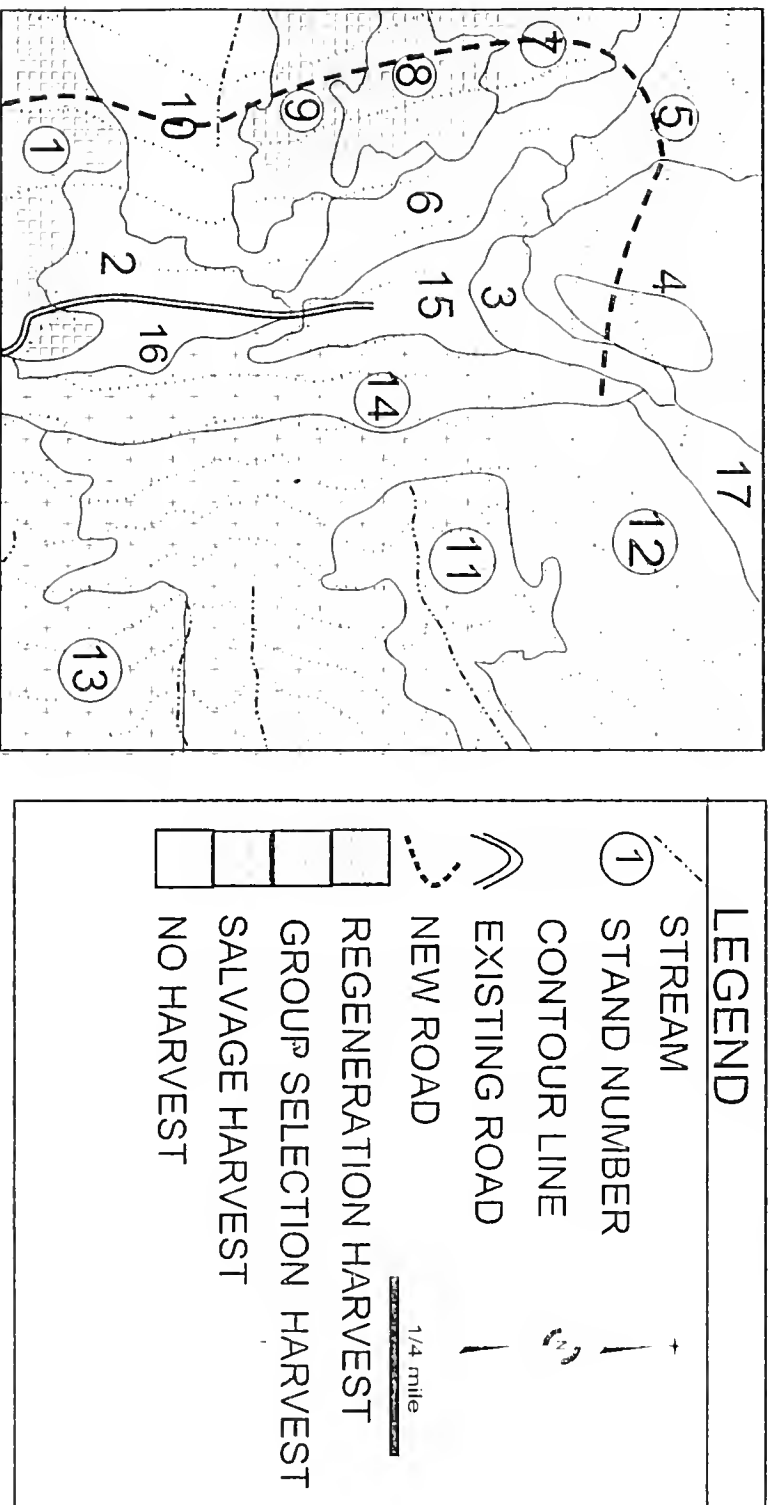


TABLE 2-4
KEELER MOUNTAIN TIMBER SALE ALTERNATIVE 3

STAND#	TREATMENT ACRES	SILVICULTURAL TREATMENT	HARVEST EQUIPMENT	PROPOSED SLASH TREATMENT
1	32	Seedtree with reserves	Line machine below road/Soft track above road	Broadcast burn below road excavator pile and burn above road
4	10	Salvage	Line machine below road/Soft track above road	Broadcast burn below road excavator pile and burn above road
5	29	Seedtree with reserves	Line machine below road/Soft track above road	Broadcast burn below road/ excavator pile and burn above road
7	12	Clearcut with reserves	Line machine below road/Soft track above road	Broadcast burn below road/ excavator pile and burn above road
8	21	Clearcut with reserves	Line machine below road/Soft track above road	Broadcast burn below road/ excavator pile and burn above road
9	20	Clearcut with reserves	Line machine below road/Soft track above road	Broadcast burn below road excavator pile and burn above road
11	41	Group select.	Helicopter	Jackpot burn and underburning
12	182	Group select.	Helicopter	Jackpot burn and underburning
13	47	Group select.	Helicopter	Jackpot burn and underburning
14	48	Group select.	Helicopter	Jackpot burn and underburning
Road Construction = 1.4 miles Road Closures = 1.4 miles Road Improvements = 4.6 miles				

FIGURE 2-3 PROPOSED KEELER MOUNTAIN SALE MAP
ALTERNATIVE 4

Proposed Keeler Mountain Timber Sale Map

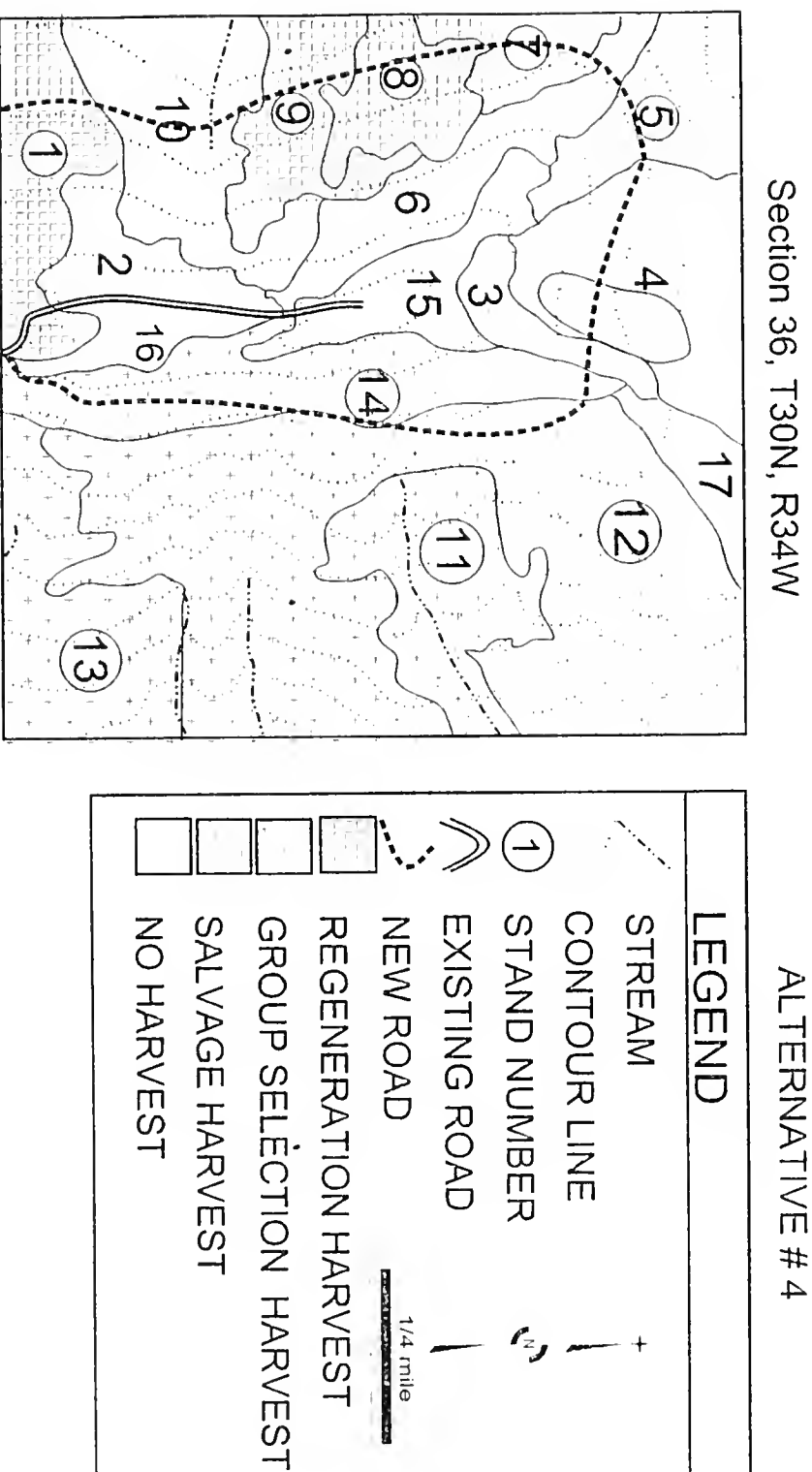


TABLE 2-5
KEELER MOUNTAIN TIMBER SALE ALTERNATIVE 4

STAND#	TREATMENT ACRES	SILVICULTURAL TREATMENT	HARVEST EQUIPMENT	PROPOSED SLASH TREATMENT
1	32	Seedtree with reserves	Line machine below road Soft track above road	Broadcast burn below road excavator pile and burn above road
4	10	Salvage	Line machine below road Soft track above road	Broadcast burn below road/ excavator pile and burn above road
5	29	Seedtree with reserves	Line machine below road Soft track above road	Broadcast burn below road/ excavator pile and burn above road
7	12	Clearcut with reserves	Line machine below road Soft track above road	Broadcast burn below road/ excavator pile and burn above road
8	21	Clearcut with reserves	Line machine below road Soft track above road	Broadcast burn below road excavator pile and burn above road
9	20	Clearcut with reserves	Line machine below road Soft track above road	Broadcast burn below road excavator pile and burn above road
11	41	Group select.	Helicopter Line skid/Ground based	Jackpot burn and underburning
12	182	Group select.	Helicopter Line skid Ground based	Jackpot burn and underburning
13	47	Group select.	Helicopter Line skid Ground based	Jackpot burn and underburning
14	48	Group select.	Helicopter Line skid/Ground based	Jackpot burn and underburning
Road Construction = 2.2 miles Road Closures = 2.2 miles Road Improvements = 4.6 miles				

PROPOSED SILVICULTURAL TREATMENTS

The action alternatives use combinations of 3 silvicultural treatments. Figure 2-4 Graphical Reproduction of Silvicultural Treatments, provides a visual representation of how these treated areas may appear following harvesting. The visualizations are only a qualitative approximation of what would be expected to occur on the ground due to the variations and diversification of the stands treated in this project area. Each visualization portrays the geographical distribution of the treatment effects across a harvest unit. Keep in mind that this is a representation of the remaining distribution of trees and that 1 tree from visualization does not equate to 1 tree on the ground.

Clear-cut with reserves – This treatment is prescribed in densely stocked lodgepole pine stands. Reserve trees would include vigorous trees of varying age classes of species other than lodgepole pine and large snags. Small pockets and strips of the existing stands would be retained within the harvest units to help break up the openings and create more irregular shapes that emulate natural disturbances.

Seedtree with reserves – Large western larch, Douglas-fir, western white pine, and ponderosa pine would be retained, individually and in clumps (approximately 6-10 trees per acre), to provide a seed source, future snags, and cavity-nesting sites. Existing snags and small clumps of younger trees would also be retained to provide for both structural and species diversity.

Group selection with reserves – Small openings, up to 5 acres in size, would be created in the existing stand to promote regeneration and/or release established regeneration. Reserve trees would include vigorous trees of varying age classes in all species present. Snags and large seral trees that have a high potential to become cavity-nesting sites in the future would be retained.



DRAFT EIS (DEIS)

Following scoping, DNRC prepares a DEIS, incorporating public comments relating to issues that could affect the project. Upon publication, the DEIS is circulated to interested parties; notification that it is available is sent to the parties on the mailing list that has been developed for this project. Comments are accepted for 30 days.

FINALS EIS (FEIS)

After all public comments are received and evaluated, DNRC will prepare a FEIS or adopt the DEIS as the FEIS, which consists primarily of a revision of the DEIS that incorporates new information based on public and internal comments.

NOTIFICATION OF DECISION

Following publication of the FEIS, the Unit Manager of the Libby Unit will review the information contained in the FEIS and project file, including public comment. No sooner than 15 days after publication of the FEIS, the Unit Manager will consider and determine the following:

- Do the alternatives presented in the FEIS meet the projects purpose?
- Is the proposed mitigation adequate and feasible?
- Which alternative or combination/modification of alternatives should be implemented?

These determinations will be published and all interested parties will be notified.

PROPOSED SCHEDULE OF ACTIVITIES

After a decision of published, if an action alternatives is selected, several actions would be initiated. The actions initiated depend on whether the alternative is chosen in its entirety. Contract packages for two possible timber sales and proposed road construction could be prepared in 1999 and 2000.

The schedule is to present the timber sale to the State Land Board in the spring of 2000. If the Land Board approves the projects, harvesting activities and road construction would occur for approximately 1-4 years after each sale is sold. Post harvest activities, such as site preparation, planting, and hazard reduction, would occur following harvesting activities.

STIPULATIONS AND SPECIFICATIONS KEELER MOUNTAIN TIMBER SALE

The stipulations and specifications for the action alternatives were identified or designed to prevent or reduce potential effects to resources considered in this analysis. In part, stipulations and specifications are a direct result of issue identification and resource concerns. This section is organized by resource.

Stipulations and specifications that apply to operations required by and occurring during the contract period will be contained within the Timber Sale Contract. As such, they are binding and enforceable. Stipulations and specifications relating to activities, such as hazard reduction, site preparation, and planting, that may occur during or after the contract period will be enforced by project administrators.

The following stipulations and specifications are incorporated to mitigate effects to resources involved with the action alternatives considered in this proposal.

WATERSHED AND FISHERIES

- Planned erosion-control measures include graveling portions of roads, constructing slash-filter windrows, planting grass seed, and closing and obliterating roads. Details for these control measures will be included in Appendix B of the Timber Sale Agreement.
- Streamside Management Zones (SMZs) will be delineated where they occur within or adjacent to harvest areas to protect areas adjacent to streams or lakes to maintain water quality.
- Culvert sizing for all road projects will be as recommended by DNRC hydrologist.
- Stream crossings, where culvert installations are planned, will have the following requirements, as needed, to meet Best Management Practices (BMPs) and protect water quality:
 - Slash-filter windrows will be constructed on the approach fills.
 - Filter-fabrics fences will be in place downstream prior to and during culvert installation.
 - Erosion-control fences will be installed on fill slopes at crossing sites and remain in place until the slopes stabilize and revegetate.
 - Diversion channels will be constructed and lined with plastic to divert streamflow prior to any in-channel operations.
 - Except for the equipment used to construct the crossing, stream crossing with any equipment is prohibited. The equipment used for the crossing construction will be limited to no more than 2 crossings.
- Brush will be removed from existing road prisms to allow effective road maintenance. Improved road maintenance will reduce sediment delivery.
- The contractor will be responsible for the immediate cleanup of any spills (fuel, oil, dirt, etc.) that will affect water quality.
- Fuel-leaking equipment will not be permitted to operate in stream-crossing construction sites.
- Included in the project proposal are the following pertinent recommendations of the Flathead Basin Forest Practices, Water Quality and Fisheries Cooperative Program Final Report.

The following numbers correspond to the numbering of recommendation items contained within the aforementioned document, included in pages **154** through **162** of the final report.

- 1) BMPs are incorporated into the project design and operations of the proposed project.
- 2) Riparian indicators will be considered in the harvest unit layout.
- 3) Management standards of the Streamside Management Zone Law (75-5-301 MCA) area used in conjunction with the recommendations of the study.
- 4) The BMP audit process will continue. This sale will likely be reviewed in an internal audit and may be picked at random as a Statewide audit site.
- 7) SMZs will be evaluated as a part of the audit process.
- 12) Watershed-level planning and analysis are complete. Logging plans of USFS, as reported to the Cumulative Watershed Effects Cooperative, are used.
- 15) DNRC will use the best methods available for logging and road building for this proposal.
- 17) DNRC requested inventory information from DFWP. DNRC's mitigation's plan for roads fits all recommendations for "impaired streams". Using "worst-case-scenario" criteria provides for conservative operations in this proposal.
- 18) Provisions in the Timber Sale Agreement address BMPs that are rigidly enforced.
- 29-34) DNRC has cooperated with DFWP for continuing fisheries work. DNRC will continue to monitor fisheries in the future as funding allows.

GRIZZLY BEARS

The following items are incorporated into this proposal:

- Contractors will be required to haul or store garbage in a safe place so bears will not be attracted to the area.
- The Forest Officer will immediately suspend any or all activities directly related to the proposed action, if necessary to prevent imminent confrontation or conflict between grizzly bears and humans or other threatened or endangered species and humans.
- Contractors will be prohibited, while working under contract, from carrying firearms onto closed roads.

WOLVES

A contract provision will be included to protect any wolf den or rendezvous site within the gross sale area that may be discovered during implementation of this proposal.

BIG GAME

- Signs will be placed at the entrance of the Keeler Mountain area to:
 - inform users that the area is big game winter range,
 - request they not harass game animals with snowmobiles, and

- request that pets are kept leashed or in direct control, so pets do not harass big game during the critical winter months.
- Additional retention of existing vegetation will be done to provide security for big game in harvest units along open roads.

WILDLIFE TREES AND SNAG RETENTION AND RECRUITMENT

- All existing high-quality wildlife trees/snags, such as large, broken-topped western larch, will be designated for retention and given special consideration during yarding operations to prevent loss.
- Some large western larch (greater than 18" dbh) with characteristics that indicate they could become high-value snags (stem rot or physical defects) will be retained.
- Clumps of larger grand fir that have stem rot will be retained to provide nesting habitat.

TOWNSEND'S BIG-EARED BAT

If any large aggregation of bats are discovered during the preparation or administration of this sale, the DNRC wildlife biologist will be informed immediately. Depending upon the nature of the report, the biologist will then coordinate efforts to determine the species. If Townsend's big-eared bats were determined to be present, further mitigative measures will be developed.

ROADS

- Information on road-construction activities and road use associated with road-construction activities will be relayed to the general public.
- BMPs will be incorporated in all planned road construction.
- Signs will be placed at some critical intersections.
- See **EROSION** section.
- Under the action alternatives, many miles of existing roads will be closed by sign or physically closed; signs will also close some proposed roads. There will be a special emphasis on closing spur roads to snowmobiles by posting signs on the big game winter range.

VISUALS

- Damaged residuals vegetation will be slashed.
- The location, size and number of landings will be limited.
- Disturbed sites along road right-of-ways will be grass seeded.

- Pockets or strips of the residual stands along topographic breaks and roadsides will be retained to limit views into harvest units.

ARCHAEOLOGY

- A contract clause provides for suspending operations if cultural resources are discovered; operations may only resume as directed by the Forest Officer.
- A review of the project area was conducted by a DNRC archaeologist.

SOILS

COMPACTION

- Logging equipment will not operate off forest roads unless soil moisture is less than 20% frozen to a depth that will support machine operations, or snow covered to a depth that will prevent compaction, rutting, or displacement.
- Existing skid trails and landings will be used where their design is consistent with prescribed treatments and meets current BMP guidelines.
- Designated skid trails will be required where moist soils or short steep pitches (less than 300 feet) will not be accessed by other logging systems. This will reduce the number of skid trails and the potential for erosion.
- Where designated skid trails are required, timber on the trails will be felled and skidded before the remaining timber in a harvest unit is felled. This will define felling patterns, facilitate skidding on designated trails, and reduce the harvest unit area impacted by skidding equipment. Skidding plans are required to be in place prior to the start of logging operations.
- Skid trail density in a harvest area will not exceed 15% of the total area.

SOIL DISPLACEMENT

- To prevent displacement and erosion of topsoil, hard-track, ground-based skidding equipment will not be operated on steep slopes (greater than 40% sustained over 300 feet) unless mitigation measures assure displacement will be minimized.
- **Brush piling and site preparation will be done with an excavator.**
- Designated skid trails will be required in all areas where tractor yarding is proposed. Existing skid trails will be used when possible.
- Lopping and scattering will be used for hazard reduction to retain woody debris onsite for nutrient cycling.

EROSION

- Ground-skidding machinery will be equipped with a winchline to limit the equipment-operation areas.
- Roads used by the purchaser will be reshaped and the ditches redefined following use to reduce surface erosion.
- Drain dips and gravel will be installed on roads, as needed, to improve road drainage and reduce maintenance needs and erosion.
- Some road sections will be repaired to upgrade the roads to design standards to reduce erosion potential and maintenance needs.
- Applications of certified weed-free grass seed and fertilizer will be applied in a timely manner to all newly-constructed road surfaces and cut-and-fill slopes. Applications will also be applied to any existing disturbed cut-and-fill slopes and landings immediately adjacent to open roads. This will be done to stabilize soils and reduce or prevent noxious-weed establishment. This will include:
 - Seeding all road cuts and fills concurrent with construction.
 - Apply "quick-cover" seed mix within 1 day of work completion at wet-culvert installation sites.
 - Seeding all road surfaces and reseeded installation sites when the final blading is completed for each specified road segment.
- As directed by the Forest Officer, water bars, logging-slash barriers, and, in some cases, temporary culverts will be installed on skid trails where erosion is anticipated based on ground and weather conditions. These erosion-control features will be maintained and periodically inspected throughout the contract period or extension thereof.

AIR QUALITY

The first item is designed to prevent individual or cumulative effects during burning operations. The next 2 items are designed to reduce effects from burning operations.

- Burning operations will be in compliance with the Montana Airshed Group reporting regulations and any burning restrictions imposed in Airshed 2. This will provide for burning during acceptable ventilation and dispersion conditions.
- Dozer, landing, and roadwork debris piles will be covered to allow ignition to occur during spring when ventilation is good and surrounding fuels are wet. Covered piles are drier, ignite easier, burn hotter, and extinguish sooner due to higher relative humidity during spring. This will reduce dispersed (unentrained) smoke.
- Maximize the amount of woody debris left on site. Fuels not burned do not produce smoke. If possible, larger fuels should be left and smaller fuels should be piles.

- Consider other debris disposal methods for road construction and road-improvement projects, including topping and scattering, trampling, hand piling, chipping, etc. Road right-of-way piles tend to be shaded by surrounding timber stands and do not dry out as well as piles in harvest units.
- Dust abatement will be applied on the segments of roads in the Keeler Mountain Project area that are used during hauling and will benefit most from dust abatement.
- An alternative disposal method for slash produced by road right-of-way, other than piling and burning, will be encourage.

NOXIOUS WEED MANAGEMENT

- Surface blading to remove weeds before the seed-set stage may be required on roads affected by the proposal.
- All tracked and wheeled equipment will be cleaned of noxious weeds prior to beginning project operations. The contract-administrating officer will inspect equipment periodically during project implementation.
- Prompt vegetation seeding of disturbed roadside sites will be required. Roads used and closed as part of this proposal will be reshaped and seeded.

HERBICIDES

To further limit the possible spread of weeds, the following integrated weed-management mitigation measures of prevention and control will be implemented:

- Road construction and skidding equipment will be cleaned of mud and weed plant parts prior to entering the site.
- Disturbed roadsides and landings will be seeded with site-adapted grasses. So grass seeding will be effective, seeding will be completed concurrently with road construction.

Herbicide Application

To reduce risk to aquatic and terrestrial resources, the following will be required:

- All herbicides will be applied by licensed applicators in accordance with laws, rules, and regulations of the State of Montana and Lincoln County Weed District.
- All applications will adhere to Montana's Best Management Practices and the herbicide's specific label guidelines.
- Herbicide application will not be general, but site specific, to areas along roads where noxious weeds area occurring. All no-spray areas will be designated on the ground before applications begin.
- Herbicides will be applied to areas where relief may contribute runoff directly into surface water.
- Application will be applied on calm, dry days to limit drift and possible surface movement off road prisms.

DRAFT EIS (DEIS)

Following scoping, A DEIS was prepared, incorporating public comments relating to the issues that could effect the project. Immediately upon publication, in May 1999, the DEIS as circulated to everyone known to be interested. Comments were accepted for 30 days. Letters were received from the following groups/individuals:

Jerry Wolcott, Plum Creek Timber Co., Libby
Cary Hegreberg, Montana Logging Association
Wayne Haahs, Plum Creek Timber Co., Kalispell
Michael Bolboni, Three Rivers District Ranger
Michael Wood, Alliance for the Wild Rockies

FINAL EIS (FEIS)

In accordance with the Administrative Rules of Montana (ARM) 36.2.530, DNRC has decided to adopt the DEIS as the FEIS, with all corrections, responses to comments, and additional information found in the Keeler Mtn. FEIS errata. All issues raised by the public were either addressed in the DEIS, the responses to comments, or in the additional information that has been provided as part of the FEIS errata; thus, DNRC felt that it as unnecessary to reproduce a full FEIS.

The comment letters received from the Draft EIS and DNRC's responses are included in this Final EIS errata. No substantial changes were made to the analysis contained in the DEIS. However, several editorial changes and corrections were made and outlined in the FEIS errata.

PROPOSED DECISION

At present, DNRC has not made a decision on the alternative selection. The only recommendation made to the decisionmaker (Libby Unit Manager) by individual ID Team members is to not choose the No-Action Alternative, but to choose an action alternative or a combination/modification of the action alternatives. The decisionmaker will study:

- ❖ All internal and external input from the DEIS and
- ❖ Additional information in the FEIS.

NOTIFICATION OF DECISION

Following publication of the FEIS, the Unit Manager of the Libby Unit will review the information contained in the FEIS and project file, including the public comment. No sooner than 15 days after publication of the FEIS, the Unit Manager will consider and determine the following:

- Do the alternatives presented in the FEIS meet the project's purpose?
- Is the proposed mitigation adequate and feasible?
- Which alternative or combination/modification of alternatives should be implemented? Why?

These determinations will be published and all interested parties will be notified.

PROPOSED SCHEDULE OF ACTIVITIES

After a decision is published, if an action alternative is selected, sale prep and a contract package could be put together by 1999 or 2000.

The schedule is to present a timber sale to the State Land Board in the spring of 2000. If the Land Board approves the projects, harvesting activities and road construction would occur for approximately 4 years after the sale is sold. Post-harvest activities, such as site preparation, planting, and hazard reduction, would occur following harvesting activities.

FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS) FOR THE PROPOSED KEELER MOUNTAIN TIMBER SALE

INTRODUCTION

This document presents changes made to the Keeler Mtn. Timber Sale DEIS. In accordance with the Administrative Rules of Montana (ARM) 36.2.530, DNRC has decided to adopt the DEIS as the FEIS, with all corrections, responses to comments, and additional information found in the Keeler Mtn. Timber Sale errata. All issues raised by the public were either addressed in the DEIS, the responses to comments, or in the FEIS errata; thus, DNRC felt that it was unnecessary to reproduce a complete FEIS. This errata, in combination with the DEIS and the FEIS Summary, constitutes the Keeler Mtn. Timber Sale FEIS.

This document consists of 2 sections:

- Additions and errata to the DEIS, including the location in the DEIS where the additions or corrections occur.
- The text of the comments received, immediately followed by DNRC's responses.

ADDITIONS AND ERRATA TO THE DEIS

The following page contains the additions and errata items pertaining to the DEIS. The location in the DEIS where additions or errata occur is underlined before each addition or erratum is presented. Except in the case where an entire page or section is added and/or changed, the additions are printed in bold and the errata are printed in *bold italics*.

SUMMARY

The DEIS Summary has been replaced by the FEIS Summary. The changes and updates have been bolded.

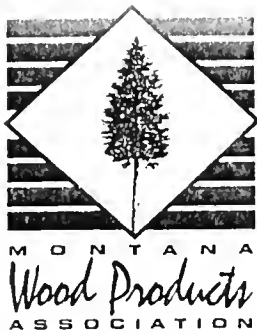
CHAPTER II

Page 2-8-Alternative 4 should be a range of \$538,862. *to \$776,381.*

APPENDIX A

Page A-4 SOIL DISPLACEMENT. Brush piling with dozers requires use of an approved brush rake. It should read "*Brush piling and site preparation will be done with an excavator*".

COMMENTS AND RESPONSES



May 25, 1999

Mike Justus
Libby Unit, DNRC
14096 US Hwy 37
Libby, MT 59923

Dear Mike,

I am writing on behalf of the member companies of Montana Wood Products Association, concerning the Keeler Mountain Timber Sale DEIS.

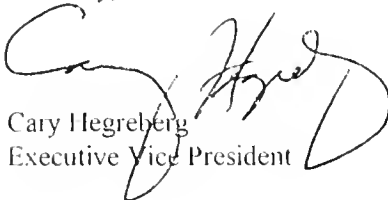
Clearly, alternative 4 is the most financially prudent option, optimizing revenue to trust beneficiaries through responsible harvest prescriptions. Helicopter logging should be considered only in instances when all other methods are ruled out. In this case, alternative 4 proposes to harvest the same volume with no significant impacts.

We also believe alternative 4 poses opportunities to improve existing ecological conditions. A more healthy, vigorous and productive forest will result from implementing this alternative, which enhances the long-term value of the land. Elk will also benefit from increased forage resulting from this project. With dramatically reduced harvest levels on the national forest, it will become increasingly difficult to maintain grasslands for big game in the region. Water quality will also be improved in the drainage through the road reconstruction and implementation of best management practices on existing roads.

Finally, we encourage you to implement a prescription which minimizes long-term timber mortality. Allowing too many mature trees to deteriorate, die and ultimately burn up or rot is irresponsible trust management. The equity or "corpus" of these trust lands must be preserved through aggressive management that emphasizes productivity and forest health. Many special interests may argue about preserving amenity "values," but value must ultimately be realized in the form of financial support for beneficiaries. A well-managed trust generates income while the equity is maintained or enhanced.

We appreciate the opportunity to comment. Please keep us involved as the process moves forward.

Sincerely,



Cary Hegreberg
Executive Vice President

**REPLY TO KEELER MOUNTAIN DEIS COMMENTS
FROM HEGREBERG – Montana Wood Products Association**

Your concerns for forest health, wildlife, and financial return to the trust are some of the issues being evaluated in this EIS.



June 2, 1999

John Shotzberger
State of Montana, DNRC
14096 US Hwy 37
Libby, Mt 59923

Dear John:

I am writing to comment on the Keeler Timber Sale Draft EIS. We support the implementation of Alternative #4 because it maximizes the return to the Trust, while at the same time providing much needed raw materials to the local timber industry. We prefer Alternative #4 over #3 because the cost of helicopter logging makes line skidding feasible even when expensive roads are needed. The concern about road impacts on the area are easily countered with the increased standard of construction and maintenance the Montana BMP's require.

Another issue I would like to address is that of "Old Growth". With the U.S. Forest Service basically cutting very little timber I don't think the State of Montana needs to worry about providing for "Old Growth". I am not even sure "Old Growth" fits in with your charge to maximize financial return to the Trust. Surely there is no requirement that every section of State land be managed with an intact "Old Growth" component.

On page S-13 in the table comparing the environmental effects of the various alternative, under Social and Human Issues, I am surprised that the issue of the local community, its workforce and industry, are not addressed. It seems to me that in a period of declining log supplies from the USFS makes this sale extremely important to local mills, loggers, and their families. This has to be at least as important as visuals from Keeler Mountain Lookout!

Sincerely,



Wayne Maahs
Senior Forester

REPLY TO KEELER MOUNTAIN DEIS COMMENTS FROM MAAHS – Plum Creek

1: OLD GROWTH

Refer to chapter 3; III. Current Forest Conditions; F. Appropriate Conditions and Old Growth; pages 3-16 and 3-17. This gives an overview of our Old Growth policy. The 63 acres of Old Growth was also left for wildlife, fisheries, and watershed concerns.

2: SOCIAL AND HUMAN ISSUES

Refer to chapter 4; XIII. Economics; B. Direct Effects of Alternatives A, B, and C on Jobs and Income; page 4-30.

Jerry B. Wolcott
5500 Kootenai River Rd.
Libby, Mt. 59923

John Shotzberger
Libby Unit Forest Management Supervisor
14096 US Hwy 37
Libby, Mt. 59923

June 1, 1999

Subject: Keeler Mountain Timber Sale Proposal

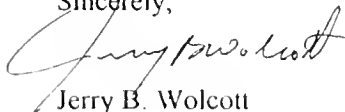
Dear John:

I have had the opportunity to look at the Keeler Mountain Timber Sale Draft Environmental Impact Statement. My initial reaction is one of near disbelief. If the DNRC continues this pathway the agency will soon be unable to prepare a timber sale in an economical manner. This Draft EIS exceeds that necessary to prepare a timber sale within the mandate of the DNRC.

Please reconsider your current approach.

As to the merits of this sale area I recommend harvesting this area to the fullest extent possible within reasonable environmental constraints.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jerry B. Wolcott", written over the printed name.

Jerry B. Wolcott

Cc:
Jon Dahlberg
Bud Clinch

REPLY TO KEELER MOUNTAIN DEIS COMMENTS FROM WOLCOTT – Plum Creek

DNRC is actively trying to reduce our costs. One area being considered is the scope and depth of our environmental documents.



File Code: 1950 Keeler

Date: June 14, 1999

John Shotzberger
Libby Unit Forest Management Supervisor
14096 US Hwy 37,
Libby, MT 59923

Mr. Shotzberger:

We have review the Keeler Mountain Timber Sale Draft Environmental Impact Statement (DEIS) and offer the following comments:

- Soil Displacement (Pg S26) - In the summary, dozer brush piling with brush blade as mitigation is mentioned to prevent soil displacement. The alternative descriptions, however, only analyze excavator piling. Dozer piling is a much higher impact to soils, even with a brush blade.
- Noxious Weeds and Herbicides (Pg S27-28) It's not clear what the noxious weed plan is. The effectiveness of surface blading to remove weeds is questionable.
- Old Growth - Where are the 10.4% (67 acres) of old growth that aren't going to be harvested in the project?
- Clearcut Equivalent The clearcut equivalent is approximately 34% (regeneration plus group select). This seems significant for no effect.

Forest Service analysis shows 30% equivalent clearcut in Keeler Creek opposed to your finding of <8%.

- Visuals - To mesh with visual qualities on National Forest land, we would like to see the state adopt aesthetic standards that do not include square sided cutting units. More visual analysis would have been beneficial.
- Roads - There is no map showing access roads to state lands. Unless the reader is familiar with the area, it is difficult to get oriented.

There is no map showing roads to be decommissioned. The text only mentions one road and several spurs with no numbers.

Sincerely,

MICHAEL L. BALBONI
District Ranger



REPLY TO KEELER MOUNTAIN DEIS COMMENTS FROM BALBONI – USFS Three Rivers RD

1 Soil Displacement

We made an error. It should have read "Brush piling and site preparation will be done with an excavator".

2: Noxious Weeds and Herbicides

Our noxious weed plan is to make sure all off road equipment is free of noxious weed seed and that all newly exposed road surfaces are promptly grass seeded. If new noxious weeds are found on State land we will spray with herbicide to control them. If noxious weeds are found on gravel roads leading to the State land and spraying is not an option to control weeds, then surface blading may be a last resort to remove the weeds so that they are not spread to other locations.

3 Old Growth

The Old Growth that is not going to be harvested is in stand #2 (21 acres) and stand #10 (42 acres). Refer to page 3-3 figure 3-1.

4. Clearcut Equivalent

The DEIS displays a table on page 3-28 which displays the clearcut equivalent of each of the watersheds potentially affected by the Keeler Mountain proposal. As shown in this table, none of the watersheds is currently over 10% clearcut equivalent. Page 3-28 also states that approximately 8% of the entire Keeler Creek watershed is in a harvested condition. This value was estimated through identifying old harvest units from an ortho-photo map of the entire Keeler Creek watershed. If less than 10% of the watershed has been harvested, far less than 10% would be in a clearcut equivalent condition since many of the units are old and have had decades of vegetative recovery.

As shown in table 4-5 on page 4-20 of the DEIS, none of the proposed watersheds affected by the DNRC proposal would exceed 25% in a clearcut equivalent condition, including the South Fork Keeler Creek watershed. In addition, page 4-18 discusses the proposed DNRC harvest and the potential project under consideration by the Kootenai National Forest. These proposed activities would bring the entire Keeler Creek watershed to a 13% harvested condition, and clearcut equivalents would be far lower than this value due to vegetative recovery of old harvest units.

5. Visuals

Refer to page S-20 and pages 2-22 and 4-23. We think that the harvest units will blend in with the mitigation measures prescribed.

6 Roads

For a map of access roads to the State refer to Appendix B page B-22. For a map showing the roads to be decommissioned see Appendix B page B-45 and for a description of what roads and spurs refer to Appendix B page B-9.

Alliance for the

PO Box 8731 • Missoula, Montana • 59807
Ph: 406-721-5420 • Fax: 406-721-9917



Wild Rockies

Web: <http://www.wildrockies.org/awr>
Email: awr@wildrockies.org

June 7, 1999

John Shotzberger
Libby Unit Forest Management Supervisor
14096 U.S. Hwy 37
Libby, Montana 59923

Dear Mr. Shotzberger,

Thank you for the opportunity to comment on the Keeler Mountain Timber Sale. I am writing on behalf of the Alliance for the Wild Rockies and The Ecology Center, Inc. in expressing our opposition to this timber sale. The following is an explanation of the opposition.

Although the following letter addresses concerns on the Swan River State Forest (SRSF) primarily we believe many of these concerns are relevant to your decision-making as well. Moreover, we understand that many of these concerns address the DNRC as a whole and are therefore more broadly focused than the Keeler Mountain Timber Sale proposal. However, we believe your considerable discretion in implementing the goals of SFLMP allows you to consider and adopt the following perspective with regard to old growth management.

CONCERNS WITH DNRC'S OLD GROWTH ANALYSIS PROCEDURES, May 17, 1999
Jane Adams, Steve Thompson, Steve Barrett, Malcolm Thompson

1. DNRC's current definition for old growth

The 1996 State Forest Land Management Plan uses a generic attribute-based definition of old growth: "Forest areas that are in the later stages of stand development. Old-growth forests are generally dominated by relatively large old trees, contain wide variation in tree sizes, exhibit some degree of multi-storied structure, have signs of decadence such as rot and spike-topped trees, and contain standing snags and large down logs. Specific criteria for identifying old growth vary by environment and forest type."

In contrast, in the current age-based definition used by DNRC, actual old-growth attributes are optional. The December 1998 South Lost SEIS exemplifies DNRC's current definition of old growth: "Stands that are 150 years and older (140 for lodgepole pine) and that exhibit a range of structural attributes associated with old age, and that contain a minimum of 4 MBF per acre net."

The definition also allows stands in Beaver Lake (SRSF) to be considered old growth, even though they have no large trees, no snags and no down woody debris because of past highgrade logging and salvage harvests. After the latest round of logging, some of these stands will have around 10-15 medium-sized trees left standing and will still be called old growth. Such stands should not be considered old growth at all.

In contrast to the DNRC, the U.S. Forest Service, Region 1, and the Society of American Foresters both use attribute-based definitions of old growth.

2. Problems with the application of the old growth definition

A The definition is applied equally to all stands, regardless of ecological differences and fire regimes.

Missoula Office:

801D Sherwood St. • Missoula, MT • 59802
406-721-5420 • awr@wildrockies.org

Boise Office:

1714 Heron • Boise, Idaho • 83702
208-386-9014 • wildrockies@lesbois.com

Ecosystem Defense Program

406-542-0050
awr-defense@wildrockies.org

B. It allows for heavy, ecologically inappropriate harvest in true old growth, without changing the OG classification. In South Lost, the "Moderate retention harvest" would enter virgin stands of high quality old growth, and leave just 6 trees per acre. Such post-harvest stands will resemble post stand-replacing disturbances, that bear absolutely no resemblance to the natural old growth stands in the area. In contrast, the OG guidelines developed by ENF in Green et al (1992), say OG stands would have to resemble typical undisturbed conditions, or have a stand density typical of old, unlogged forests of that cover type. Even SFLMP defines old growth as "Forest areas that are in the later stages of forest development...".

C. It does nothing to protect true, high value old growth that is of value to old growth associated wildlife. Lower quality "old growth" (e.g. Beaver lake) may have little or no habitat value for such wildlife species, and it may serve none of the other ecological functions of true old growth. High quality low elevation old growth is relatively very rare now in the Flathead basin, and very important for wildlife.

D. It does not differentiate between untouched, high value stands, and heavily salvaged areas. Areas that have been salvaged, where many of the big old mature dead and dying trees that are of great importance to old growth associated wildlife have been removed, provide much lower quality habitat for wildlife than natural old growth forests. Much of the STW and SRSF have been heavily salvaged. The SFLMP says that DNRC would maintain conditions that species evolved: "A coarse filter approach assumes that if landscape patterns and process (similar to those species evolved with) are maintained, then the full complement of species will persist and biodiversity will be maintained". Salvage logged areas are not similar to conditions that species evolved with, and not acknowledging this violates the SFLMP.

E. The biodiversity guidelines state that current old growth attribute levels would be maintained. This violates the SFLMP directive to "maintain patterns and processes similar to those that species evolved with". And even the biodiversity guidelines are being violated. On the SRSF, 9,543 acres of old growth have been previously entered, which is 55% of the current 17,333 acres of old growth. Yet South Lost is proposing to enter high quality virgin stands, so not even the current proportions would be maintained.

F. Most of SRSF was classified as 200 year plus old growth in 1930's. Using a definition of just 150 years does not assure or even acknowledge most old growth on SRSF should be old and higher quality.

3. Concerns with the new "attribute based" classification

A. Pat Flowers' April 9 memo states that the new "index" approach would go beyond maintaining existing proportions and instead would identify an appropriate or target distribution of attributes. This has potential for resolving some of the current problems, but it will require public review and participation. As with the biodiversity guidelines, many of the problems only became apparent when the guidelines were implemented in timber sales.

B. As an interim measure until a publicly acceptable system has been developed, there should be no harvest in any high or medium quality attribute stands; these stands have already been disproportionately negatively affected. The proposed interim measure that proposed sales not change the current distribution of attributes is not adequate.

C. The target levels should represent the best approximation of historic conditions on DNRC lands.

D. Stands that are very low in old growth attributes due to past highgrade logging and salvaging (e.g. Beaver lake), that no other scientists would recognize as old growth, should not be even be considered old growth.

4. Arguments against using climatic section averages

A. DNRC's stated reasons for using the climatic section averages are that it allows them to substitute space for time and get a broader landscape picture of disturbance processes. They say that analysis on the unit level is too small, whereas climatic sections are large enough to assess general trends and average conditions. Theoretically this is a sound approach in some circumstances, but not as it is being applied to DNRC lands.

The main problem with using the climatic section averages is that DNRC lands are not average with respect to old growth amounts. On the SRSF there was at least 74% old growth in 1900, yet the climatic section average for the SRSF is just 35.4%. On the STW, there was 50- 90% old growth in 1900, yet the climatic section average for the STW is just 31.8%. Obviously, the SRSF and the STW had much higher amounts of old growth than the climatic section averages. It is not appropriate to manage for average conditions, when DNRC lands were not average regarding old growth.

We don't know why DNRC lands had more old growth. We do know that many lands were chosen by DNRC, and it is very likely that site potential and current timber volume and value (i.e. mature and old growth stands) were important criteria in choices.

Ecologically, DNRC lands may have more old growth due to random fire events. Or they may be more conducive to the development of old growth. Many factors influence the probability that old growth will develop. As studies have shown (e.g., Camp et al. 1997), and draft 4 of the biodiversity guidelines states: "General meso-climatic influences, and topographical characteristics of slope, aspect, and elevation help control disturbance regimes and exert substantial control over the age class distributions that develop." DNRC has not begun to satisfactorily demonstrate that the 2,000,000 acre climatic sections from which they extrapolate data are similar to the much smaller DNRC lands with respect to the factors that influence old growth development.

The SFLMP states " ...we would focus on maintaining or restoring the forest conditions that would have naturally been present given topographic, edaphic, and climatic characteristics of the area. Any particular combination of site, topography and climate has an associated disturbance regime and range of possible forest conditions."; and "Within an appropriate analysis area, DNRC would seek to maintain or restore old-growth forest in amounts of at least half the average proportion that would be expected to occur with natural processes on similar sites."

The above statements imply that site-specific factors should be considered. There is absolutely nothing in the SFLMP that indicates that managing for half the amount of old growth that was on their lands is not appropriate. The SFLMP does not specify the exact methods that would be used to determine historic old growth amounts.

B. DNRC is not willing to make up for past management activities on other lands, so it is not appropriate to assume that other ownerships should make up for DNRC's actions. DNRC has, in effect, chosen to be autonomous with regard to old growth management. Because DNRC has higher than average amounts of old growth, they should be responsible land owners and maintain higher than average amounts.

The SFLMP states: "Where our ownership contained forest structures made rare on adjacent lands due to others' management activities, we would not necessarily maintain those structures in amounts sufficient to compensate for their loss when assessed over the broader landscape." And "However, DNRC would not maintain additional old-growth to compensate for loss of old-growth on adjoining ownerships."

Managing for half of the old growth that was found on DNRC lands would require that 37% (rather than 17.7%) of the SRSF be managed as old growth, and that 25-45% (rather than 15.9%) of the STW be managed as old growth. On both forests, the DNRC minimum commitment is only about 25% of what was on these lands historically. This represents a difference of 7,734 acres on the SRSF, and about 8,000-26,000 acres on the STW. Given that the Flathead basin is already far below the range of natural variability in old growth amounts in all forest types, this is a serious loss for old growth associated species and ecosystem viability. If DNRC does not maintain their share of old growth, this responsibility must fall on some other ownership if ecosystem viability is to be maintained.

C. DNRC states that they are concerned with "broader natural landscape disturbance processes", yet they clearly have no provisions in their old growth plans for loss of old growth to natural disturbances. DNRC is also obviously not concerned with general trends and average conditions regarding non-disturbed old growth patch sizes, as seen from SRSF OG retention network. Their methods are not even consistent with their stated arguments.

D. DNRC is basing old growth retention levels on climatic section historical conditions, but they have completely ignored climatic section current conditions. They are only managing DNRC lands, but they ignore what was historically on their own lands. This switching back and forth between scales is comparing apples to bananas, and they only do it because it presents the most favorable picture for harvesting the most old growth.

5. Other concerns with current method

A. DNRC's current cover type definitions are not matching well with historic maps. The 1900's map of SRSF shows that not one single acre was mapped as the WWP cover type, and most of the SRSF was the WLADF cover type. Yet DNRC says 26% of the SRSF should appropriately be the WWP cover type. Interestingly, only 8.5% of the WWP need be managed as old growth, but 23.5% of the WLADF type would be managed as old growth. So by mis-classifying the lands, far fewer acres need be managed as old growth.

B. Rare and unique habitat types are not considered. The coastal disjunct cedar in South Lost, and ABLAOPHO type in unit 5 in coal Creek, which Pfister says is rare and sensitive and should not be logged, are prime examples. Also, riparian cedar strips and many old growth inclusions were not mapped out in 1930's which underestimates their occurrence.

C. Silvicultural treatments do not emulate natural disturbances.

D. 1930's data did not always distinguish between naturally young stands, and previously logged stands, as seen on the 1900's map of STW.

E. Broad cover types do not begin to capture site-specific ecological differences between stands within cover types (i.e. wet-site vs dry-site WLADF, and stands lumped into "mixed conifer" cover type). Stands within a broad cover type category may have very different probabilities of developing into old growth.

6. Old growth retention networks

A. The old growth retention network for the SRSF does not maintain natural patch size patterns, past harvesting was not considered and many stands are of lower quality, basic acreage is too low, and peer review comments have been ignored.

B. There's no commitment to retain these stands.

C. Although the quality of stands in the retention network is uncertain, other high quality old growth is being proposed for harvest. This greatly reduces options for old growth management.

7. Peer review comments were largely ignored

The Cyclone/Coal FEIS states that the old growth/biodiversity guidelines "were submitted to various forest scientists for peer review. Their comments were incorporated into the final version of the Guidelines." However, the peer reviewers expressed some of the same concerns we've raised, albeit almost a year earlier. Their suggestions were not incorporated into the final guidelines. Brad Holt of Boise Cascade and the UM forester, Carl Fiedler, for example, both criticized the use of cover types as the basis for analysis, suggesting that they include habitat type or plant association classification systems to include the influence of soils, climate and topography. Fiedler also criticized the use of age rather than attributes as a basis for allocating acres as old growth.

8. Lack of interagency coordination

The SFLMP requires DNRC to "make reasonable attempts to pursue cooperative planning with major adjoining landowners. This has not been done. The Flathead National Forest was developing their (much more scientifically credible) old growth analysis procedures at the same time that DNRC was working on the same issues, yet DNRC made no attempts at cooperative planning. As a result, the two major land management agencies in northwestern Montana are defining and managing old growth in very different ways using fundamentally different assumptions.

7. Procedural recommendations to revise biodiversity implementation guidelines:

a) Bring definition of old growth in line with 1996 forest plan and the standard professional definitions (such as developed by Society of American Foresters or U.S.F.S. Region 1).

B) Develop a peer-reviewed process to guide old-growth management that allows for public comment. This may involve MEPA documentation, although this may not be necessary if the definition and direction is consistent with 1996 forest plan. Currently, the programmatic implementation guidelines are not consistent with the 1996 forest plan and are not in compliance with MEPA.

C) Coordinate more closely with adjoining landowners, including the U.S. Forest Service.

On-ground recommendations until the biodiversity implementation guidelines are revised:

D) Hold harmless the "best of the best" old growth. At a minimum, this hold-harmless policy should include old growth that is older than 200 years with definite old-growth attributes. (In the non-lethal fire regime, restoration logging of high-quality old growth may be permitted to restore and maintain ecologically appropriate old-growth attributes.)

E) Maintain at least half of the old growth found on DNRC lands when they were acquired by the state, of the same quality old growth that historically existed on DNRC lands. Given all the known and unknown variables in determining historic old growth distribution on DNRC lands, we think the long-term policy should be to maintain at least half of the old growth found on DNRC lands when acquired by the state. But rather than prejudice the process, we ask that this be the interim policy until the implementation guidelines are revised.

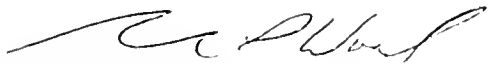
END OF MAY 17, 1999 LETTER

Our concerns with your old growth management are essentially grounded in your methodology for determining where and how much old growth exists within your project area. Because your present definition and assessment of old growth is flawed, your "Old Growth Retention Commitments on the Libby Unit" are based upon inadequate baseline data. As such, we urge you to re-assess the old growth stands after having incorporated the concerns expressed in the May 17, 1999 letter.

Our other present concern with this project is essentially focused on your accounting system for calculating the monies generated from this sale. As we understand it, you do not track the administrative costs of the timber sale program at the project level, only at the land office and statewide levels. We do not believe this accounting system is adequate given the fact that these are trust lands. We believe that your fiduciary duty to ensure that all state lands are providing the greatest benefit to our public schools, requires you to track the actual costs of each timber sale and provide this information to the public. Your present accounting system provides only a generalized estimate of actual revenue generated from each timber sale and is wholly inadequate in managing trust lands.

We appreciate all the effort you have placed in analyzing the impacts of this sale, but we cannot support this timber sale given the above stated inadequacies of your analysis. For this reason, we favor the no action alternative. Please keep us informed as you move forward with other aspects of this project analysis yet to be completed (i.e. bull trout consultation).

Very Sincerely,



Michael Wood
Ecosystem Defense Program Director

REPLY TO KEELER MOUNTAIN DEIS COMMENTS FROM WOOD – Alliance for the Wild Rockies

Old Growth Analysis Procedures:

Page 4-6 of the EIS states, “Under the action alternatives there would be no harvesting of old growth.” Given the fact that no old growth is being harvested with this project, we feel that your concerns regarding the old growth analysis procedures would be best addressed by referring you to the specific projects and EISs (i.e., Swan and Stillwater Units) that are mentioned in the letter that you submitted from Steve Thompson. We have previously responded to the concerns listed in Steve Thompson’s letter (dated May 17, 1999) in the following EISs: Cyclone/Coal FEIS, South Fork Lost Creek Final SEIS, and the Beaver Lake FEIS. If you need a copy of those responses, please contact the Stillwater Unit (881-2371) and the Swan Unit (754-2301).

Economics:

For information on economics, I refer you to the Economic Analysis in the DEIS (pp. 3-30 through 3-31 and 4-24 through 4-30). The analysis shows that this proposed action would harvest approximately 2.4 to 6.3 million board feet (MMBF), and contribute approximately \$400,000 to \$776,000 to the State Trust Fund for Common Schools. This figure is a net value that accounts for development and timber stand improvement costs.

We disagree with your opinion that we must track costs by project. I am confident that this sale will produce revenue consistent with past program performance as identified on page 3-31 in the DEIS.

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